Electricity out of Thin Air?

The Earth acts like a giant electricity storage battery, charged by the Sun.

If we could harvest these abundant free electrons cheaply and easily, we could satisfy all our energy needs.

by Richard A. Edwards

Perth, Western Australia

Several decades ago a man took a bucketful of ilmenite, or similar, melted and compressed it into a solid block of monocrystal silicon and sliced the block into wafers. The wafers were square. Today they are square, round or any desired shape. Recent breakthroughs in solar-electric technology have even allowed the silicon to be completely flexible.

On his workbench he placed a stack of the wafers and a sheet of glass (today, plastic is most commonly used). On each wafer he glued an aluminium conducting grid, leaving a tail north and south. He turned each wafer over, gluing them on the glass so that the conducting grid was between the glass and the wafers, arranging a panel of perhaps eighteen wafers in, say, rows of six. He solder-connected all the north tails to the south tails, making a continuous conducting grid. Over the lot he glued a laminate to weatherproof it all and hold it all together. On one of the remaining two tails he connected a diode to give direction flow.

He took the assembled panel out into the sunlight. He turned it over so that the glass was nearest the light, then the conducting grid, then the silicon. He connected the two tails to a battery and two meters—one on volts, the other on amps. The meters began to register a flow of electricity. His theory was no longer a theory.

Light—a stream of particles called photons—shines through the glass (or today, plastic). Some photons dislodge some electrons off the silicon atom at an energy conversion rate so far achieved of some 14 per cent in the market-place and 25 per cent in the laboratory. The freed electrons are captured by the conducting grid and fed into the battery for later use, or immediately used as controlled electricity.

Thus was born solar-to-electric conversion of energy, used and known throughout the world today as the photovoltaic effect. You can see the evolution of the process on site and for sale in shops all around you today.

Photovoltaic Effect

At its birth the photovoltaic man-made effect was hailed as the saviour of mankind. Limitless energy to herald a utopian future? No. It slowly and painfully became clear that this new energy source was far too meagre and had very limited application, though some diehards still doggedly assure the public that it is the energy source of the future.

I have spent some ten years researching and developing my concept of the energy source of the future. I offer it herewith.

The photovoltaic effect described above is man imitating and greatly improving upon nature. I firmly believe that man cannot do anything in the realm of physics if nature has not already done it. He just does it better mostly, and occasionally worse.

That photovoltaic effect happens all over the world wherever and whenever the Sun shines. All the surface of the Earth that is not biological (alive or dead), water or mineral is silicon—all the rock of the Earth, from mountains to hills, boulders to rocks, stones to pebbles, from sand to dust. All that silicon, plus most minerals, contribute free electrons into the air by the Sun's photovoltaic effect, in much less per-area quantity than the concentration in a man-made panel but in an immeasurably larger world-sized conglomerate.

My concept was and still is simplicity itself. We have to learn how to harvest those free electrons that fill the air all around us.

Before I could start experimenting with hardware, I had to think it fully through. That took me several years. Here is that big think in summary.

That infinite source of free electrons must be the major source of natural electricity on Earth, from its obvious manifestation in lightning to its unseeable but measurable vastness in the ionosphere. I do not wish to lock horns with scientists who might hold an image of

the ionosphere's shape and structure different from mine. I will just report my hardware observations and inescapable conclusions—not necessarily in that order.

The ionosphere and the weather system together constitute to the Earth what storage is in a man-made battery. The charging is infinite. Literally infinite. The Sun shines on the Earth. The natural photovoltaic effect produces limitless, probably immeasurable amounts of free electrons. Those free electrons—ions if you like, same thing—cannot travel of their own volition. They are subject to gravity, any local electromagnetic phenomenon, wind and, most importantly, the Earth's rotation. The Earth rotates, taking the day's makings into the night side. The effect at night of the ionosphere—its very presence, even—is well-documented and gratingly evident to receivers of any EMF wave, particularly in AM mode. That is the primary storage we are after, plus its daytime makings and its storage in the weather system. We can, according to my big think, take out more of that electricity than we can ever use without in any way upsetting the balance of nature. The shape of the ionosphere, as my hardware experiments mapped it and so will yours, can only be more or less like a surfer's wet hair—long and trailing at the back. The dawn side. If it weren't trailing—the excess being drawn off by gravity into the Sun—the electrical charge on Earth would just keep building and life as we know it could never have begun on Earth.

The ionosphere and the weather system together constitute to the Earth what storage is in a man-made battery. The charging is infinite... The Sun shines on the Earth. The natural photovoltaic effect produces limitless, probably immeasurable amounts of free electrons.

In a nutshell, the solar system is a dynamo powered by the Sun. The Earth is an electricity storage battery. All we have to do to give ourselves Energy Utopia is cream off as much of that electricity as we care to take before it trails off into the Sun.

That finished my big think. Righto. Anybody can theorise about anything. Hardware is what counts. So I began the practical bit. It has taken me four years and I have gone as far as I can go. Here is the summary.

The Hardware

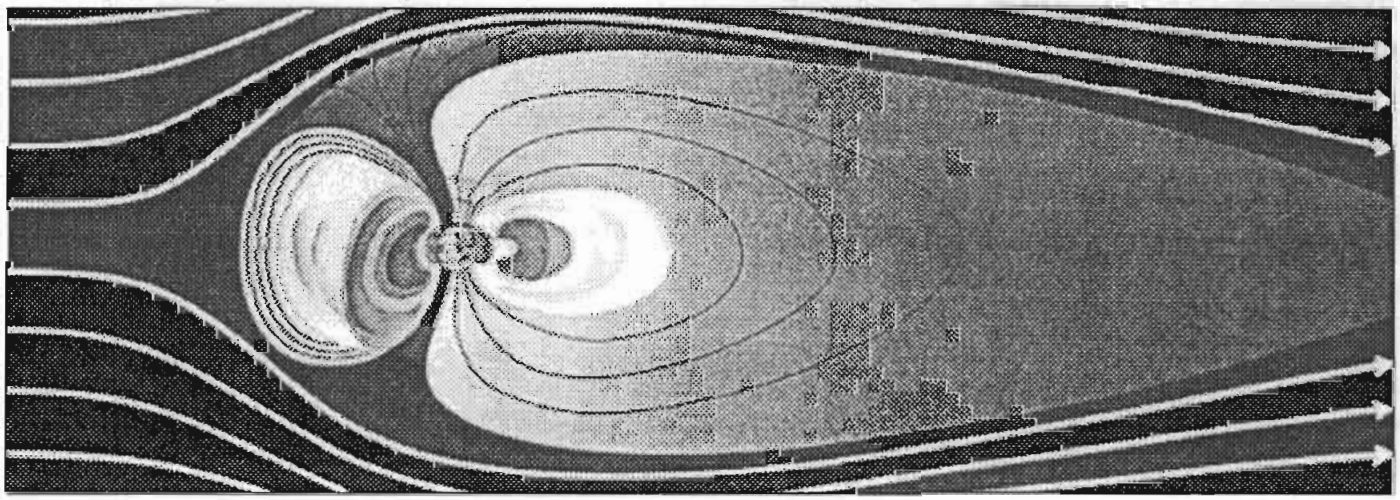
First I needed an upside-down, naked photovoltaic panel. The silicon and conducting grid had to be in unimpeded, open contact with the air. The normal method of manufacture described above only harvests the tiny amount of electrons freed within. According to my big think, a naked upside-down job would harvest not only that tiny amount but also the free electrons naturally filling the air. Okay. Whipped around the solar shops and factories in my home town, Perth, and Sydney to find someone to make it. Didn't have to. Found one ready to roll—BP Solar Supplies sell it. It's half the size of this page—A5. The model number is GM684-SP60-12v. It is not a BP product. It states "Made in Hong Kong"—nothing else. Shy manufacturer. Not to worry. BP Solar Supplies sell it, their shops are all around Australia, and this magazine is sold throughout Australia.

The panel cost AUD$49 full retail. I will be quoting costs from now on because the whole idea of this report is for you to take up where I left off. The total cost is tiny. I am not pursuing any intellectual property protection of any kind. I believe I might, just might have discovered Energy Utopia. I further believe that my discoveries must be worked up and brought on line as quickly as possible if the world is in imminent danger of suffocating in a poisonous cloud of environmental filth spewed from our vehicle exhausts and factory chimneys. Any and all of you—backyard enthusiasts, R&D scientists, schoolchildren and their teachers—can circumvent that. Anybody. Anywhere. Except me. I cannot— you can. Help yourself. Don't do as I say—do as I did.

The panel: you can see at a glance how to strip it naked. Unscrew the plastic case. Cut the binding glue off all the edges. Slide the panel out. Slip a Stanley or similar knife blade under a corner of the laminate, lifting an edge. Peel the laminate off, just a bit harder than peeling an onion. That's all there is to it. There is no other panel known to me with which you can do that. All larger models are made as described above—impossible to separate the plastic sheet from the works. All the smaller models I have seen are lacquered, not laminated, and are equally useless for our purpose.

I am now going to report my discoveries with hardware during the past four years. Except for the panel, your equipment possibly will be different from mine, and your environment fluctuations certainly will be. You can form your own theoretical conclusions. Have your own but of a think. I will not be referring to my big think again, except to state now that during it I theorised that the Earth's magnetic field might play a major role; perhaps the electricity harvest can be accelerated. I was to be proven right.

In my backyard patio I set to work. The patio was ideal, being



open on three sides. Full free-flow air contact.

From Dick Smith's I bought a digital multimeter, model number Q-1420. You can pick it out on the shelf easily. It's bright yellow. It will be helpful for you to get one of that model yourself. It's very cheap—only AUD$29. More importantly it is dual purpose, unlike all other multimeters I have seen. You only have to twiddle the dial to switch from volts to amps or amps to volts. You don't have to unplug, replug, disconnect, reconnect or worry about series or parallel. Give analog meters a miss. A needle is nowhere near as clear as LCD numbers.

I placed the naked panel, the multimeter and a 12-volt battery on a table and connected them in simple series. Note: your battery must be in good condition but never full or you will have nowhere for the electricity to go, and therefore amps won't register on the meter. It's exactly the same as when you turn on a hot water tap in your house. Water runs out of the tank. Water runs into the tank, registering on your frontyard meter, and water runs out of the dam miles away. The only difference in this case is that the dam is not miles away. We are surrounded by it—a vast ocean of electricity in which the Earth continually floats.

Being aware that any light, natural or artificial, produces the photovoltaic effect, I decided to use a fluorescent tube light source. It is well-documented that fluorescence is better than incandescence—your everyday light bulb—for the former is a diffuse light source while the latter is focal. For about AUD$20 I bought one of those standard 12-volt car trouble-lights available in auto accessories shops, service stations and variety stores everywhere. I removed the plastic lid (it just clips off), turned the light upside down and positioned it over the panel, setting it permanently in position simply by resting it on a cigarette packet-sized bit of wood each end. The light would now bathe the naked panel. I connected the light to the battery in a different, separate circuit.

Tapping the Earth's Free Electricity

Now, the Earth's magnetic field. From Tandy's I had bought a roll of aluminium conducting ribbon as used in window burglar alarms. It cost about AUD$7. Around the cardboard packet the solar panel came in, I wound some of the ribbon, securing it here and there with sticky tape, to make a flat coil. To each end of the ribbon I connected about three metres of plastic-covered wire flex. We will come back to that shortly. I connected the flat coil between the naked panel and the multimeter.

Is it all clear to you? A simple series. Battery to naked panel to flat coil to multimeter to battery. Fluorescent light source in a separate circuit. Diagrams are not necessary. Once you have the hardware in front of you, it will become stunningly simple.

All systems go. At about 3.00 pm one afternoon three years ago I set up the rig. My wife, our four kids and I, feeling pretty silly, sat to wait and see what, if anything, would happen. The volts read about 2 volts. The amps read about 2 milliamps.

Nothing by 4.00 p.m. Still the same. I put on a pair of insulating washing-up gloves to make sure the electricity in my body would not be a factor. I picked up the flat coil. I moved it all about in all planes. Up. Down. Sideways. Twist. WOW! Volts and amps rose and dived all over the place. I satisfied myself that I had found the highest orientation reading—about 3.5 volts and about 5 milliamps—then propped the coil permanently in that position on the table simply by jamming it between books.

The sun set about 7.00 pm. About 8.00 pm, volts and amps began to rise. By 9.00 pm they had reached about 5 volts and 10 milliamps. They stayed there until about an hour before dawn. Then they dropped back to 3 volts and 5 milliamps.

My family and I were stunned. Far better than I had dreamed!

Many nights of monitoring and analysing since have revealed various times of increase. Sometimes before sunset, sometimes hours after. My house is near the ocean. Sometimes the wind would be offshore, sometime onshore. You can form your own conclusions. I have formed mine.

On rare occasions a strange thing happened. During crystal-clear weather, day or night but much more noticeably at night, the volts and amps would swiftly fall, stay down for varying periods from a few minutes up to an hour or so, then swiftly rise again. There was no tangible variable in the environment. My family and I were most perplexed. One midnight the volts and amps were at the lowest reading we had seen at any time of day or night. That was when I noticed the Moon was full and directly overhead. I have formed my own conclusions. You can form yours.

When a nearby lightning flash occurred, volts and amps went so high and fluctuated so wildly that it was and still is difficult to comprehend the enormity of what we were seeing.

But the party had not yet warmed up.

The summer electrical storm season was due to begin. That's what I wanted to see. During the ensuing two years of monitoring and analysing we had many electrical storms. This is briefly what happened. When rain fell, day or night, volts and amps immediately leapt, sometimes trebling from whatever they were reading, and stayed up until at least ten minutes after the rain stopped. When a nearby lightning flash occurred, volts and amps went so high and fluctuated so wildly that it was and still is difficult to comprehend the enormity of what we were seeing.

But the party had still not yet got hot. So far the hardware was only stationary. What would happen if it were moving? Would it harvest more free electrons like a baleen whale harvests plankton while cruising through the ocean with its mouth open? Let's find out.

I rang an energy management consultancy in Perth which I selected from the Yellow Pages on the basis that it was in the CBD, thus accessible to me by public transport. I am a virtually penniless invalid pensioner so I have to do everything in the cheapest possible way. I gave them a verbal rundown. They arranged an appointment at their office for two days later. I bought another new GM684-SP60-12v and took it to the office. I did nothing. I touched nothing. I just talked. They stripped the panel naked, connected it to a meter on volts and another meter on amps, put a D battery in the circuit (connected to and operating a transistor radio to keep it less than full, I guess, though I must admit I couldn't follow half of what they were doing—they are scientists), placed the lot in the sun and notated the readings: 2.8 volts, and I didn't catch the amps. Them young whippersnappers were going too fast for this old cougar. We all boarded one of their cars and went driving along a freeway. One of the scientists held the naked panel out the passenger window in the sun. The rest of the equipment was inside. As the car accelerated to the speed limit, the volts climbed to 8 volts and the amps likewise trebled. I will resist the temptation to tart up this report with their superlatives. You can use your imagination. I thanked them for

Continued on page 84

Continued from page 51

their help, left and have not seen them since to have a good yarn, though we keep in touch. I will not name them. This whole report might turn out to be a fizzer and they have their hard-earned reputations. I don't have that problem.

The only problem I have is to make this report as clear as I possibly can so you can take over.

I then figured out that a multidirectional coil might be the best way to go for the Earth's magnetic field electron accelerator. It struck me that a vehicle powered by the work-up from the knowledge base I had so far gathered, or an electric train, trolley bus or other public transport electric vehicle harvesting by hardware on top and feeding the harvest into the existing electricity distribution grid, would of course be continually changing direction and the flat coil wouldn't be correctly orientated except now and then.

I bought two aluminium rods, 1 m x 5 mm x 2 mm, costing $5. I wound them around a bottle to make two coils the shape of a small barrel-loaf of bread. I attached them at right angles to each other on a small plank and nailed two pieces of wood to the underside of the plank. Thus I made a slot between them so the rig would sit on the passenger window of my car. When I wound the window up, the rig jammed in position like one of those indicator arms on the old car I used to drive in my youth. I connected a diode to one end. A packet of 10 cost me about $2 at Tandy's. Next, I connected the two coils together with a bit of flex wire. Then I hung the yellow multimeter on the passenger side interior sunvisor where I could easily see it while driving. I connected from the car battery to the multimeter to the double coil back to the battery. Parking the car in my driveway so the passenger side was in the sun, I took the rig off the window and moved it around to find the lowest reading: about 8 millivolts. Didn't bother about amps (wouldn't be any). Just a simple direction test. I stood in front of the rig to block out the sun. About 4 millivolts, heat factor established. To eliminate extraneous factors of power lines, media transmissions et al., I drove into the middle of several school playing fields, several miles apart, taking a couple of my sons with me in case these tired old eyes deceived themselves. Driving around in circles, the volts climbed astonishingly in some directions and dived equally startlingly in others. I found the highest reading to be in a generally southern orientation, moving or stationary. The volts read 180 millivolts—an increase in percentage too mind-boggling for me to say more.

I have tried to make this report as accurate as I can but I'm only human, just as fallible as you. I've figured it out the best I can. I can offer no qualifications—I left school as a scholastic disaster when I turned 15 more than forty years ago and have had no schooling since. Magazine reader-land is choc-a-bloc with minds much better than mine. If you see hope in it, if you think it might be something more than the dreams of a bored, stiff old bludger and want to investigate it further in a proper scientific manner, fine. It's all yours. I seek no money and less fame. I couldn't proceed any further if the world gave me a blank cheque, the best electronic laboratory on the planet and the finest scientific minds to help me. I believe those things are you.

I would be pleased to receive mail directed via this magazine. ∞